Central Manchester University Hospitals NHS
NHS Foundation Trust

Directorate of Laboratory Medicine

Non Gynaecological Cytology User Manual – 2014/2015

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1.0 About us

The non-gynaecological cytology service of Central Manchester University Hospitals NHS Foundation Trust (CMFT) is located on the 1st Floor of the Clinical Sciences Building 2, receives approximately 3,500 samples per annum and offers a comprehensive specialist service, reporting on a wide range of samples including serous fluids, urine, cerebrospinal fluid, bronchoscopically obtained respiratory samples and fine needle aspirates (FNAs).

FNAs come from a wide variety of sites including thyroid, lymph nodes, salivary glands, pancreas and deep tissues and organs, and may be performed freehand, under radiological guidance or by endoscopic ultrasound (EUS) and endobronchial ultrasound (EBUS).

The department is staffed by approximately 3.15 WTE consultant cytopathologists, 5.0 WTE BMS with MLA support and provides a diagnostic service to CMFT, Trafford General Hospital, the Christie Hospital and general practices. We have a consultant led service which provides on-site provisional diagnosis at EBUS clinics and BMS assistance at a wide range of FNA clinics, including adequacy assessment at head and neck clinics and the Christie Hospital.

The department serves many specialised services at CMFT including gynaecological, respiratory, head and neck, urological and hepatopancreatobiliary diagnostic services.

This unique department is at the forefront of personalised medicine due to our close working relationship with the Manchester Centre for Genomic Medicine based at CMFT and preparation of a wide range of non-gynaecological cytology samples for molecular testing.

The department is fully CPA accredited and an approved IBMS training centre. We are closely associated with the North West Cytology Training Centre and provide training to medics and scientific staff and are fully committed to maintaining this accreditation by an established quality management system and standards determined by the Royal College of Pathologists together, with scheduled clinical and quality audits and national guidelines.

1.1 Opening hours

The department is open from 08:00 hrs – 17:00 hrs, Monday to Friday (except bank holidays). Non-gynaecological samples should be received in the department by 16:45 hrs.

1.2 Services available at CMFT

1. Exfoliative cytology
2. Biomedical Scientist (BMS) assistance at radiological and ad hoc FNA clinics
3. BMS assistance and on site specimen adequacy assessment at dedicated Head and Neck clinics, including thyroid – usually Tuesday mornings and Thursday afternoons
4. On site consultant led provisional diagnoses/adequacy assessment of endobronchial ultrasound (EBUS) FNA samples.

1.3 Services available at TGH

1. Exfoliative cytology
2. FNA without BMS on-site assistance.

Samples are transported to the CMFT site 3 times per day.

1.4 Services provided to the Christie Hospital

1. Exfoliative cytology
2. FNA cytology, including BMS assistance in slide preparation and on site specimen adequacy assessment.

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2.0 Find or contact us at CMFT

The cytology department is located on the first floor of Clinical Sciences Building 2. All visitors must access the department via the reception area of Clinical Sciences Building 1. **Please also contact us if you have any complaints or service improvement suggestions.**

Address

Cytology Department
First Floor
Clinical Sciences Building 2
Manchester Royal Infirmary
Oxford Road
Manchester
M13 9WL

Email: **cyto.pathology@cmft.nhs.uk**

Telephone Enquiries

	Telephone	Fax
General	**0161 276 5115/5116**	**0161 276 5113**
Non-gynaecological cytology results	**0161 276 5115/5116**	
Booking an FNA (at CMFT)	**0161 276 5115/5116 or Bleep 07659545074**	
Advice on non-gynaecological cytology sample collection	**0161 276 5115/5116**	

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2.1 Key Contacts at CMFT

Name	Position	Telephone	E - mail
Dr D N Rana	Consultant Cytopathologist & Clinical Lead Non Gynaecological Cytology	0161 276 5108	durgesh.rana@cmft.nhs.uk
Dr M Holbrook	Consultant Cytopathologist	0161 276 6475	miles.holbrook@cmft.nhs.uk
Dr D. Shelton	Consultant Cytopathologist	0161 276 5109	david.shelton@cmft.nhs.uk
Dr S Thiryayi	Consultant Histo/cytopathologist	0161 701 7570	sakinah.thiryayi@cmft.nhs.uk
Dr P Wright	Consultant Histo/cytopathologist	01617011615	paul.wright2@cmft.nhs.uk
Nicola Wood	Medical Secretary	0161 276 5116	nicola.wood@cmft.nhs.uk
Helen Wilson	Medical Secretary	0161 276 6727	helen.wilson2@cmft.nhs.uk
Jennifer Bradburn	Medical and North West Cytology Training Centre Secretary	0161 276 8804	jennifer.bradburn@cmft.nhs.uk
Nadira Narine	Lead Biomedical Scientist	0161 376 5115	nadira.narine@cmft.nhs.uk
Adanna Ehirim	Chief Biomedical Scientist	0161 276 5119	adanna.ehirim@cmft.nhs.uk
Daniel Smith	Cellular Pathology Manager	0161 276 6138	daniel.smith@cmft.nhs.uk

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2.2 Find or contact us at the Christie Hospital

We are located in the Bereavement Suite at the Christie Hospital and are available between the hours of 09:00 hrs to 12:30 hrs, Monday to Friday (except bank holidays). One staff member is available for FNA services and to answer queries relating to non-gynaecological cytology only.

Telephone Enquiries

	Telephone	
General	**0161 446 3643**	
Non-gynaecological cytology results	**See CMFT contact above**	**No results are issued at the Christie Hospital**
Booking an FNA (at Christie)	**0161 446 3643 or 0755-411-6250**	
Advice on non-gynaecological cytology sample collection	**0161 446 3643**	

E mail cytology@christie.nhs.uk

3.0 Specimen acceptance policy

Each specimen must be accompanied by a completed and matching sample request form. Please ensure all fields of request forms are completed. See page 22 for instructions on completing the non-gynaecological cytology request form. A blank copy of same is available for download on page 23. Alternatively, we can supply bulk forms on request.

All specimen containers must be clearly labelled with:

1. Patient's full name
2. Date of Birth
3. NHS &/or Hospital number
4. Specimen type (non-gynaecological)

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4.0 Package and transport of samples

Samples taken at central site must be sent with the porter and not via the pneumatic tube.

Non-gynaecological cytology samples requiring transport on the public road must be packaged and transported in compliance with "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (ADR Regulations) 2011". Specimens must be packaged according to P650 instructions with a UN3373 diamond point label - Biological Substance, Category B.

Please note instructions P650 requires three layers of packaging:

- Primary container (e.g. universal tube, vial)
- Secondary container (e.g. specimen bag)
- Outer packaging (e.g. rigid transport box).

The primary sample must be individually bagged in a secondary bag and sealed. If the sample is liquid, enough absorbent material must be added to the secondary bag to absorb a potential spillage of the sample. The request form must be placed in the specimen bag's separate pouch.

Specimens must then be placed in a rigid box and closed. The box must comply with Transport Regulations. The outside must be clearly labelled Biological Substance Category B, with a UN3373 diamond label.

If a sample is sent by post, please note that Royal Mail will only carry UN3373 Diagnostic Specimens if they are packed following Packaging Instruction P650 and:

- Are sent by first class post or Special Delivery and to inland addresses only
- The packet is marked with the sender's name, telephone number and address.

All specimens must be delivered to the laboratory as soon as possible in order to provide the best service possible and keep turnaround times to a minimum.

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5.0 Turn around Time

The non-gynaecological cytology department is mandated by the guidelines of the Royal College of Pathologists (RCPath) on turn around times, that is, 80% of cases to be reported within seven calendar days and 90% of all cases to be reported within ten calendar days (http://www.rcpath.org/Resources/RCPath/Migrated%20Resources/Documents/K/RCPathKPIproposals_Jul13.pdf).
However, sometimes a sample may be deemed urgent by the requesting clinician for a variety of reasons, including patients being of the HSC205 pathway. In these instances, the reporting cyto/histopathologist will aim to give at least a verbal report to the requesting clinician within 1 to 3 working days. Any verbal report is usually provisional pending assessment of all material and/or ancillary testing. In these instances, the clinician should telephone the laboratory in advance and provide a contact name and phone or bleep number.

Additionally, due to the nature of the sample, all cerebrospinal fluid (CSF) samples are deemed urgent regardless of any indication by the requesting clinician. It is strongly recommended that the clinicians inform the laboratory prior to aspirating any CSF samples so that transport instructions may be conveyed and the laboratory is prepared for receipt of the sample.

- Non-gynaecological cytology reports are printed and sent out daily, addressed to the consultant or GP who requested the test.
- Reports of any malignancy are faxed.
- To discuss the cytology report with the Consultant Cytopathologist, contact the department between 08:00 hrs and 17:00 hrs on 0161 276 5115/5116.

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6.0 Current practice and research activity

- We currently use a mixture of direct spreads, cytospins and SurePath® Liquid Based Cytology (LBC) technology in our sample preparation.
- Our research activities include:
    1. Penile brush cytology
    2. Oro-pharyngeal brush cytology
    3. High risk HPV testing in head and neck cancers
    4. Molecular testing in selected non small cell lung cancer cases and other cancer cases
    5. Dual antibody staining for immunocytochemistry.

6.1 Molecular testing

The non-gynaecological cytology department can facilitate a number of molecular tests on cytology samples due to our close working relationship with the Manchester Centre for Genomic Medicine, The Christie Hospital NHS Foundation Trust and the Patterson Institute.
It is strongly recommended that the clinicians convey any requests for molecular tests to the attending BMS for any FNA cytology samples or to the consultant cyto/histopathologists for any exfoliative cytology samples, either by indication on the request card or by telephone.

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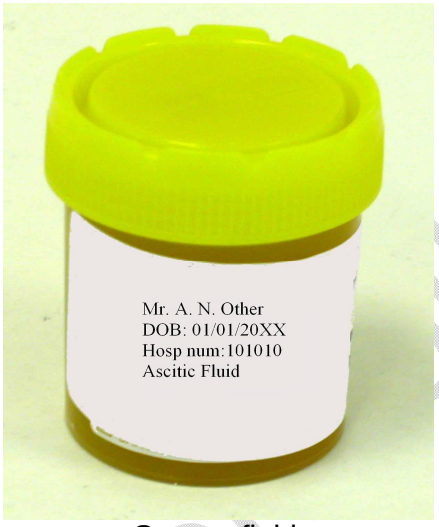
7.0 Non-gynaecological cytology sample collection

7.1 Serous fluid samples including peritoneal washing

Body cavity fluids (pleural/ascitic/peritoneal/pericardial fluid & peritoneal washing)

Please see specimen acceptance policy on page 7

- 50 -100 mls fluid should be sent in a clean dry container with screw cap (**Note: no formalin or alcohol should be added to the sample as both of these can cause interference with adherence to slide and quality of staining**)
- The fluid should be submitted as soon as possible to minimise cell deterioration, so that cell preservation is not compromised
- If there is a delay in delivering the sample to the laboratory, the sample should be kept refrigerated at 4^0C (Note – the sample should NOT be frozen).



Serous fluid

Cyst fluid

Cyst Fluids

- Cyst fluid should be put into a clean dry container with screw cap.
- The fluid should be submitted as soon as possible to minimise cell deterioration, so that cell preservation is not compromised
- If there is a delay in delivering the sample to the laboratory, the sample should be kept refrigerated at 4^0C (Note – the sample should NOT be frozen).

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7.2 Respiratory tract samples

Transbronchial FNA – see FNA section 7.6

7.2.1 Endobronchial ultrasound (EBUS) samples

We are please to announce that we have a consultant led EBUS FNA service which started in October 2012. A Consultant Cyto/histopathologist is on site to provide preliminary diagnoses with technical assistance provided by a biomedical scientist.
This has proved extremely successful in terms of preliminary diagnosis, specimen triage and reflex molecular testing.

7.2.3 Sputum samples

- Best results are achieved with freshly obtained sputa following chest physiotherapy, with an early morning sputum before the patient has eaten
- Contamination with large amounts of saliva or food leads to inadequate specimens
- Multiple specimens (usually x 3) may be necessary, but these should be sent on 3 separate days, not all taken at the same time
- Send in clean, dry container with screw cap
- If examination for eosinophils is required please indicate this on the request form.

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7.2.4 Bronchial aspirate/trap/wash/lavage & bronchoalveolar lavage samples

Please see specimen acceptance policy on page 7

- Fresh specimen should be placed in a clean dry container and an equal volume of CytoRich® Red preservative fluid immediately added for fixation
- The time of this fixation should be indicated on the label of the container
- If CytoRich® Red preservative fluid is not available, fresh specimen should be placed in clean dry container. Delay in receipt unfixed samples can lead to deterioration of specimen
- If differential cell count is required, **DO NOT USE CytoRich® Red** preservative fluid. Please send the sample unfixed
- DO NOT USE FORMALIN FIXATIVE

Fresh Specimen

Specimen with an equal volume of CytoRich® Red preservative fluid

- Please note: When the stock of CytoRich® Red preservative fluid is running low or close to its expiry date, please contact the cytology department on 276 5111/5116 for replacement.

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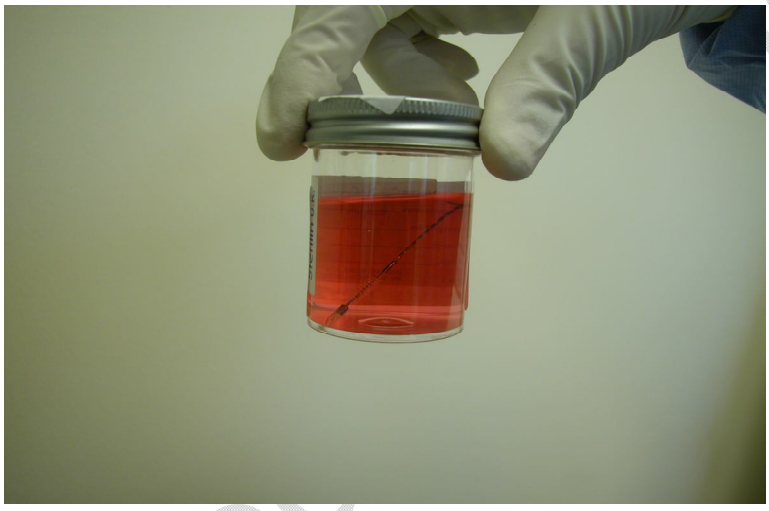
7.2.5 Bronchial brush samples

- Place brush into clean screw capped container with CytoRich® Red preservative fluid. Ensure brush is fully immersed in preservative
- The time of this fixation should be indicated on the label of the container.
- DO NOT USE FORMALIN FIXATIVE
- Please note: When the stock of CytoRich® Red preservative fluid is running low or close to its expiry date, please contact the cytology department on 276 5111/5116 for replacement of stock



7.3 Urinary tract samples

Urine (including voided, catheter, urethral washings and ileal conduit samples)

Please see specimen acceptance policy on page 7

- Collect urine in a clean, dry container with a screw cap. A 20ml to 50ml container, preferably with yellow lid (below) is suitable
- Please do not send urine for cytology in Sarstedt Monovette
- An adequate urine sample is the second voided of the day, preferably mid morning or random
- **Please note: The first sample voided in the morning is unsuitable for cytological analysis**
- Urine can be collected from catheters as well as washings from the bladder or upper urinary tract. The request form must state the method of collection
- If there is a delay in delivering the sample to the laboratory, the urine sample should be kept in a fridge at 4ºC

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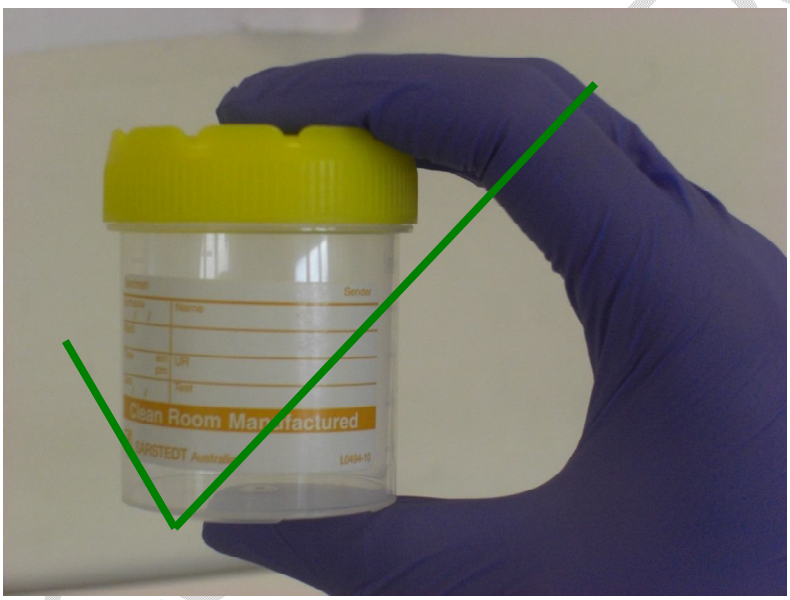
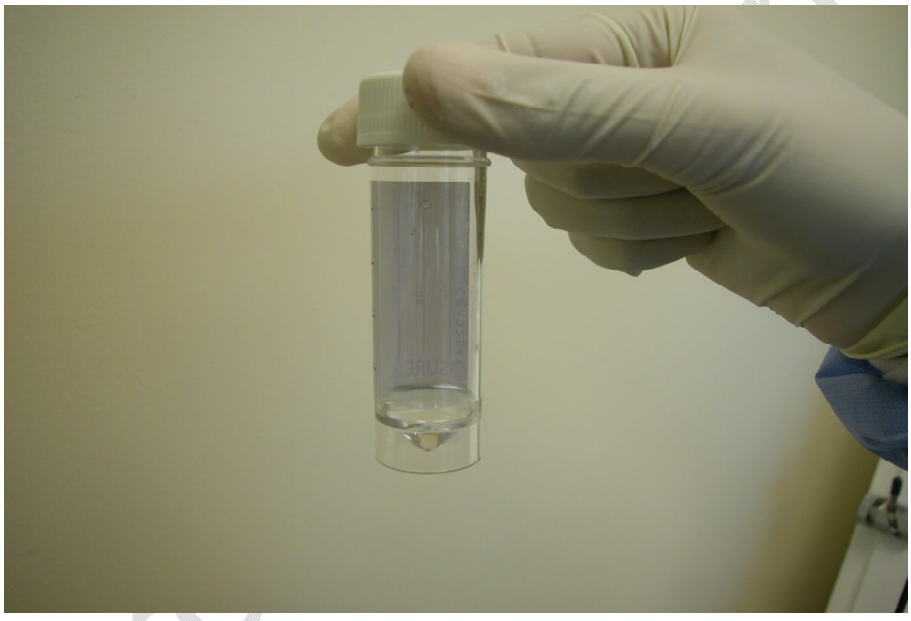


Industrial Urine samples

- The preferred method for the collection of industrial urine samples is the same as above (preferably in 25ml Universal tube). **Please contact the cytology department in advance when sending large number of samples.**

7.4 Cerebrospinal fluid samples

- A clean, dry container with screw cap should be used
- CSF samples are liable to degenerate rapidly and as such must be prepared immediately. **Please contact the laboratory to inform staff of imminent arrival of a CSF sample, and leave a bleep or contact number**
- **Latest processing time for samples is 15.30 hrs Mon-Fri. CSF samples must be received at least half an hour before this time**
- If out of hours sampling is unavoidable, storing the sample in refrigerator at 4°C may help preserve cells for up to 24 hours.



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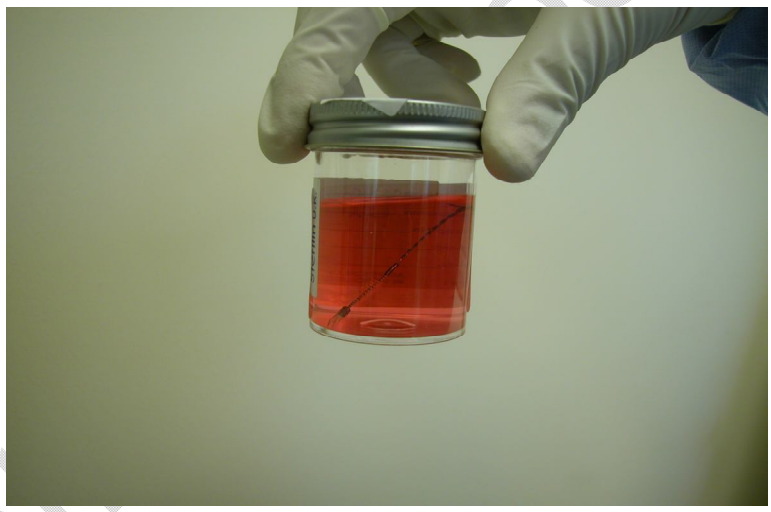
7.5 Gastrointestinal Tract brush samples (including bile duct)

Please see specimen acceptance policy on page 7

- Place brush into clean screw capped container with CytoRich® Red preservative fluid. Ensure brush is fully immersed in preservative
- The time of this fixation should be indicated on the label of the container
- DO NOT USE FORMALIN FIXATIVE
- Please note: When the stock of CytoRich® Red preservative fluid is running low or close to its expiry date, please contact the cytology department on 276 5111/5116 for replacement of stock.



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7.6 Fine needle aspiration cytology samples

The non-gynaecological cytology department provides biomedical scientist (BMS) assistance at fine needle aspiration cytology (FNAC) clinics to prepare direct spreads and needle rinses.
Please note the BMS staff do not perform the aspirations.
We do provide BMS on site rapid specimen adequacy assessment at Head and Neck clinics, including thyroid, every Tuesday mornings and alternate Thursday afternoons.
At the Christie Hospital NHS Foundation Trust, the BMS provides FNA assistance and on site specimen adequacy assessment of all types of FNA samples.
The staff in the laboratory will be pleased to advise and assist on any aspect of sample collection. Please contact the department at:

- Cytology Department, Monday to Friday between 08:00 hrs and 17:00 hrs on 0161 276 5111/ 5115/5116. We may also be contacted by bleep on 0765 9545 074
- Please note calls must be received by 16:15 hrs for FNA attendance.

In the absence of Cytology staff assistance, a guide to performing aspirations and making spreads is given on pages 20 and 21 respectively**. Please also see our series of short videos on the Cytology homepage or via the link**
www.cmft.nhs.uk/laboratorymedicine

- **Christie hospital – FNA clinics** Monday to Friday 09:00 hrs to 12:30 hrs on **0161 446 3643 or 0755-411-6250**

It is recommended that the support of a BMS be utilised for optimal sample preparation.

7.6.1 Use of fine needle aspiration

- Patients presenting with palpable lesions in clinics (ENT, maxillofacial), outpatients and wards.
- Deep seated lesions sampled by radiologically guided techniques (Ultra Sound, CT)
- Endoscopic and transbronchial guided specimens

For all Radiology, Endoscopy (EUS FNAs), Respiratory Medicine (EBUS FNAs) and Head & Neck (ENT and Maxillofacial) departments please book with the Cytology Department in advance.

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7.6.2 Equipment required for fine needle aspiration

- Standard disposable 21-25 gauge needles. A 25 gauge (orange) needle is suitable for most lesions
- Disposable 5-10 ml plastic syringe
- Clean container with tight lid (preferably universal) containing CytoRich® Red preservative fluid
- Standard microscopic glass slides onto which aspirate is to be smeared.

Completion of request form and sample container

Please see specimen acceptance policy on page 7

Please see pages 21 and 22

7.6.3 Performing a fine needle aspiration

The non-gynaecological cytology department in collaboration with the Christie Hospital NHS Foundation Trust has produced a series of short videos demonstrating the techniques of performing FNAs and making direst spreads. Please see our home page for these videos or follow the link www.cmft.nhs.uk/laboratorymedicine

If you are unable to open videos, please see diagrammatic representation of the above on pages 20 and 21.

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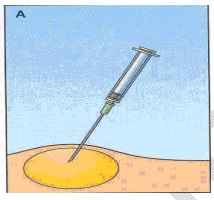
7.6.3.1 How to perform a fine needle aspiration

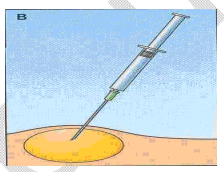
Figure taken from Fine Needle Aspiration. (2005), 4th Edition. S. Oreell; G.F. Sterrett; and D. Whittaker. Elsevier Churchill Livingstone.

- Disinfect skin using pre-packed alcohol swabs.
- Before insertion of needle wipe away any excess ultrasound jelly with tissue paper (if U/S guided)
- Perform the aspiration according to the instructions A - G

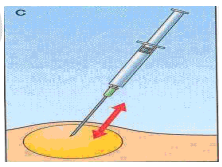
A Position needle within target tissue



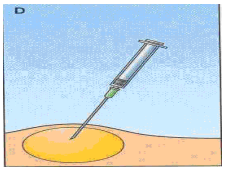
B Pull plunger to apply negative pressure



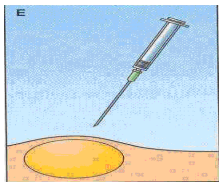
C Move needle back and forth inside target



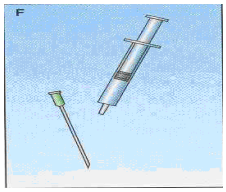
D Release negative pressure while needle remains in target tissue



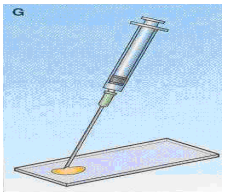
E Withdraw needle



F Detach needle and draw air into syringe



G Push a drop of sample onto microscopy slide



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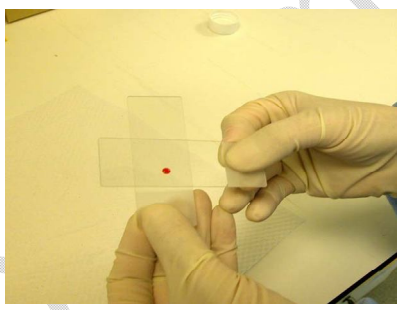
7.6.4 Making spreads from fine needle aspiration

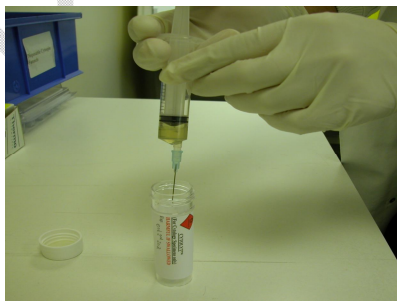
The ideal FNA sample is prepared as follows:

- Even monolayer spreads onto glass slides for **air-dried** 'direct smears'
- Needle to be rinsed in CytoRich® Red preservative fluid
- 2 passes are recommended for each case
- **If Tuberculosis is suspected, please also send an aspirate to microbiology in a sterile container.**

Step 1: Having expelled a small drop of the aspirate onto a glass slide (step G above), place a clean slide (spreader) above the drop and spread gently but swiftly. Leave to air dry.



Step 2: Rinse the remaining material from the needle into the CytoRich® Red preservative fluid by repeated aspiration and expelling of the said CytoRich® Red preservative fluid



Step 3: Label container containing CytoRich® Red preservative fluid according to specimen acceptance policy (page 7) and use a pencil to label slide.

Step 4: Complete request form (see page 21), package sample (see page 8) and send to Cytology Department, Clinical Sciences Building 2.

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8.0 Completion of the non-gynaecological cytology request form

CMFT off site non-gynaecological cytology request form

PATIENT'S DETAILS: (AFFIX STICKER HERE)

Surname

Forename

Address

Sex | DOB | Private/ NHS

Hospital number

NHS number

Ward/Dept

SPECIMEN DETAILS: (PLEASE TICK)

URINE
- Voided [ ]
- Catheterised [ ]
- Post instrumentation [ ]
- Ileal conduit [ ]
- Ureteric [ ]
- Urethral washing [ ]

BODY CAVITY
- Pleural Fluid [ ]
- Pericardial Fluid [ ]
- Ascitic Fluid [ ]
- Peritoneal Fluid [ ]
- Peritoneal Washing [ ]

CSF [ ]

Cyst Fluid [ ]
Please state site

OTHER
Please state site

BRONCHIAL
- Brush [ ]
- Lavage/Wash [ ]
- Trap/Aspirate [ ]
- Bronchoalveolar Lavage [ ]

Please state site and side of lobe.

FNA TECHNIQUE
- Ultrasound Guided [ ]
- CT Guided [ ]
- Transbronchial [ ]

FNA SITE (State clearly)

FNA SIDE: RIGHT / LEFT

Consultant to whom the report is to be sent (please print):

Copy report to/ Department (please print):

Consultant's department where report is to be sent:

Date taken:

Bleep/contact number (for requesting consultant):

Time taken:

CLINICAL INFORMATION

Clinical History ……

……

Significant Findings……

……

Diagnosis……

Previous Cytology ……

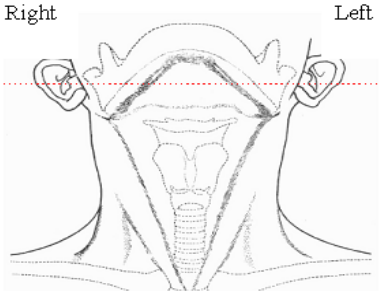
Previous Histology ……

Previous Treatment Chemo/radiotherapy……

High Risk Yes No

HEAD AND NECK FNAs
(Please indicate and label site on diagram below)

Right Left



Aspirating Clinician (PLEASE PRINT) ……Contact no./bleep……

Signature ……

N.B. Incomplete forms will result in delay in the reporting of the specimen

Visit us via: www.cmft.nhs.uk/laboratorymedicine Contact Tel: 01612765115

Comment [Aae1]: Please state clearly the site aspirated or topography of sample

Comment [Aae2]: This is the treating consultant to whom the report must be sent

Comment [Aae3]: Department of treating consultant

Comment [Aae4]: It is essential that a complete history is given such as symptoms, duration, previous diagnoses etc

Comment [Aae5]: Clinical findings &/or radiological impression can be helpful to the cytologists

Comment [Aae6]: Previous &/or current treatment regimes help to avoid over and under diagnoses

Comment [Aae7]: Name and contact number of person taking the sample is essential

8.1 Download a non-gynaecological cytology request form

CMFT off site non-gynaecological cytology request form

PATIENT'S DETAILS: (AFFIX STICKER HERE)

Surname	
Forename	
Address	
Sex	DOB / Private/ NHS
Hospital number	
NHS number	
Ward/Dept	

SPECIMEN DETAILS: (PLEASE TICK)

URINE
- Voided [ ]
- Catheterised [ ]
- Post instrumentation [ ]
- Ileal conduit [ ]
- Ureteric [ ]
- Urethral washing [ ]

BODY CAVITY
- Pleural Fluid [ ]
- Pericardial Fluid [ ]
- Ascitic Fluid [ ]
- Peritoneal Fluid [ ]
- Peritoneal Washing [ ]

CSF [ ]

Cyst Fluid [ ]
Please state site

BRONCHIAL
- Brush [ ]
- Lavage/Wash [ ]
- Trap/Aspirate [ ]
- Bronchoalveolar Lavage [ ]

Please state site and side of lobe.

FNA TECHNIQUE
- Ultrasound Guided [ ]
- CT Guided [ ]
- Transbronchial [ ]

FNA SITE (State clearly)

FNA SIDE: RIGHT / LEFT

OTHER
Please state site

Consultant to whom the report is to be sent (please print):

Copy report to/ Department (please print):

Consultant's department where report is to be sent:

Date taken:

Bleep/contact number (for requesting consultant):

Time taken:

CLINICAL INFORMATION

Clinical History ……

……

Significant Findings… ……

……

Diagnosis… ……

Previous Cytology ……

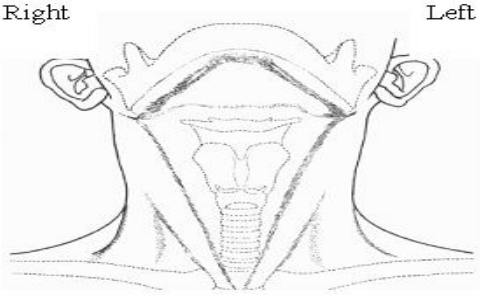
Previous Histology ……

Previous Treatment
Chemo/radiotherapy ……

High Risk Yes No

HEAD AND NECK FNAs
(Please indicate and label site on diagram below)

Right Left



Aspirating Clinician (PLEASE PRINT) …… **Contact no./bleep** ……

Signature ……

N.B. Incomplete forms will result in delay in the reporting of the specimen